

CLAIMS

1. A process for preparing a modified particulate solid comprising reacting a poly vinyl dispersant with a compound in the presence of a particulate solid and a liquid medium, characterised in that:
- 5 a) the poly vinyl dispersant has a calculated Log P of less than 1.8 and at least one reactable group; and
- b) the compound is substantially soluble in the liquid medium and has at least one reactive group which is reactive towards the reactable group(s) of the dispersant.
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2. A process according to claim 1 wherein:
- (i) the modified particulate solid prepared by the process is an encapsulated particulate solid;
- 15 (ii) the reactable group(s) in the poly vinyl dispersant are cross-linkable groups(s);
- (iii) the compound is a cross-linking agent wherein the reactive group(s) are cross-linking group(s) which can cross-link with said cross-linkable group(s); and
- 20 (iv) the reaction comprises cross-linking the poly vinyl dispersant with the cross-linking agent, thereby encapsulating the particulate solid within the cross-linked dispersant.
3. A process according to claim 1 or 2 wherein poly vinyl dispersant has a calculated Log P of from 0 to 1.7.
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4. A process according to any one of the preceding claims wherein the reaction is performed at a temperature of less than 60°C.
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5. A process according to any one of the preceding claims wherein the resultant modified particulate solid has a Z-average particle size of at most 50% greater than the Z-average particle size of the particulate solid prior to addition of the compound.
6. A process according to any one of the preceding claims wherein the poly vinyl dispersant has an acid value of from 10 to 200mg KOH / g of dispersant.
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7. A process according to any one of the preceding claims wherein the poly vinyl dispersant has at least one keto, aldehyde or beta-diketoester reactable group.

8. A process according to claim 7 wherein the compound has at least one amine, imine, hydrazide or thiol reactive group.

9. A process according to any one of the preceding claims wherein the liquid medium comprises water.

10. A process according to any one of the preceding claims wherein the particulate solid is a pigment.

11. A process according to any one of the preceding claims comprising the further step of isolating the resultant modified particulate solid from the liquid medium.

12. A process according to any one of the preceding claims wherein reaction is performed by mixing the following components:

- a) the liquid medium;
- b) the particulate solid in a weight ratio of 1:100 to 1:3;
- c) the poly vinyl dispersant in a weight ratio of 1:100 to 1:3.3; and
- d) the compound in a weight ratio of 1:10,000 to 1:10;

wherein all weight ratios are relative to the weight of the liquid medium.

13. A process according to claim 12 wherein the liquid medium, the particulate solid and the poly vinyl dispersant are mixed and the mixture is subjected to a mechanical treatment to reduce the particle size of the particulate solid which is followed by the addition of the compound to said mixture.

14. A modified particulate solid obtained or obtainable by a process according to any one of the preceding claims.

15. A composition comprising a liquid vehicle and a modified particulate solid according to claim 14.

16. A composition according to claim 15 having a viscosity of less than 20mPa.s at 25°C.

17. A composition according to claim 15 or 16 wherein the liquid vehicle comprises water and an organic liquid in a weight ratio of 99:1 to 5:95.

18. A process for printing an image on a substrate comprising applying a composition according to claim 15, 16 or 17 to the substrate.

19. A process according to claim 18 wherein the printing is performed by means of an ink jet printer.

5 20. A paper, a plastic film or a textile material printed with a composition according to claim 15, 16 or 17 by means of a process according to claim 18 or 19.

10 21. An ink jet printer cartridge comprising a chamber and a composition wherein the composition is present in the chamber and the composition is as claimed in claim 15, 16 or 17.

22. A composition according to claim 15 where the particulate solid is a colorant or a filler and the composition further comprises a binder.